

USAWC STRATEGY RESEARCH PROJECT

OBSERVATIONS ON OPERATION ENDURING FREEDOM – RECOMMENDATIONS FOR
DEVELOPMENT OF THE TRANSFORMATION OBJECTIVE FORCE LOGISTICS STRUCTURE

by

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ABSTRACT

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There is little debate regarding the early U.S. successes during Operation Enduring Freedom. Indeed, the campaign was relatively quick with few losses and the preponderance of U.S. strategic objectives were accomplished. Likewise, there were no simultaneous attacks in the same or other theaters and post 9/11 threats to the U.S. homeland did not significantly challenge Army capability. Yet, despite the successes, what implications for the future should be concluded from this limited campaign? Do the results reinforce the goals of Army Transformation, specifically the logistics goals, or do they suggest development of a new paradigm? This paper examines selected logistics observations from Operation Enduring Freedom within the historical context of the Army's experiences in previous smaller-scale contingency operations, and provides implications and recommendations for the Objective Force logistics structure.

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ARMY TRANSFORMATION. ARMY TRANSFORMATION

For the want of a nail, the shoe was lost; for the want of a shoe the horse was lost; for the want of a horse the rider was lost, for the want of a rider the battle was lost.

—Benjamin Franklin

There is little disagreement that the radically evolving strategic landscape, characterized by quantum leaps in technology, globalization, proliferation of weapons of mass destruction, and an unpredictable security environment mandated the need for strategic change and direction for the nation and the U.S. Army. However, our history is replete with such geopolitical change and inherent security risks, and commitment to major adjustments has been slow to build. So, too, has been our lack of resolve to mandate significant change within our political and military cultures. After all, on the eve of previous wars, our nation and Army were ill-prepared to meet the shortages, usually in resources of armed conflict. To overcome this historical momentum and meet the ambiguous challenges concomitant of the next century, the Army began to conscientiously transform itself from a platform-based to a network-centric based force. Although, the act of transformation and its theoretical dramatic changes in organization and doctrine is in itself no panacea for success in future war, the Chief of Staff, Army, General Eric K. Shinseki, announced on 12 October 1999, the need to transform "...the entire Army into a full spectrum force which is strategically responsive and dominant at every point on the spectrum of operations."¹ As one part of his rationale for transformation, he cited that "...our logistical footprints for deployed forces are unacceptably large, driven sometimes by unrealistic replenishment demand but also by a complex inventory of multiple types of equipment, the sheer number of which drive up the stockage requirements..."² Also during his speech, General Shinseki stated:

"We will enable our divisions to dominate across the full spectrum of operations by providing them the agility and the versatility to transition rapidly from one point on that spectrum to another with least loss of momentum. To do so we must develop a vibrant capability for reach back...so that we can begin to aggressively reduce the size of our deployed support footprints both combat support (CS) and combat service support (CSS). If we don't deploy it, some maneuver commander won't have to feed it, fuel it, move it, house it, or protect it. Today 90% of our lift requirement is composed of our logistics tail."³

This unexpected announcement sent all strategists, including logisticians, scurrying to reshape, retool, and develop processes and strategies to transform his concept into a viable reality. Complicating their efforts was the requirement to also quickly stand up Interim Brigade Combat Teams (IBCT) with new equipment, organizations and doctrine while simultaneously maintaining an older generation Legacy Force to preclude any gap in the Army's warfighting capability. Adding to the melee, was also the requirement to begin concept development with yet untested leap-ahead technology for the Objective Force, the endstate objective of Transformation. Nevertheless, the mandate for logisticians was clear, to "...aggressively reduce the logistics footprint and replenishment demand."⁴ To that end, this paper presents observations from Operation Enduring Freedom as a relevant vehicle to provide recommendations for the Transformation Objective Force logistics structure.

TRANSFORMATION LOGISTICS STRATEGY

To understand the relevancy of Operation Enduring Freedom observations, it is important to first gain an overall understanding of the Transformation framework, specifically the logistics goals. The Army Transformation Campaign Plan (TCP) is the Army's framework for guiding the Transformation. Within the TCP, three goals are specified for the logistics portion of Transformation:

- Enhance strategic responsiveness.
- Reduce the logistics footprint.
- Reduce the costs of logistics support without reducing readiness or warfighting capability.⁵

Additionally, the TCP assigns responsibility to the Army Staff principals as well as major commands to develop, integrate, synchronize and implement fifteen Lines of Operation (LOs) that "...describe closely related activities that link objectives in time and purpose."⁶ The Army G-4 is assigned responsibility for LO12, Deploying and Sustaining, while the Army Materiel Command (AMC) is assigned responsibility for LO9, Develop and Acquire Advanced Technology. The major objectives of LO9 & LO12 are:

- Develop and acquire advanced technology to provide materiel solutions for the Legacy, Interim, and Objective Forces.
- Ensure Army forces are capable of rapidly deploying in support of current and future operational force deployment goals.
- Effectively sustaining the full spectrum of Army Operations⁷

Recognizing the imperative to integrate these inherently related objectives, the Army G-4 recommended consolidation of the LOs under a single activity to the CSA. On 7 August 2002, the CSA approved by designating the Army G-4 as the Change Agent. As such, the Army G-4 “...on behalf of the Commander, Army Materiel Command; the Army G-8; the Assistant Secretary of the Army (Acquisition, Logistics, and Technology); Chief, Army Reserves; Director, Army National Guard; and the Commander, Combined Arms Support Command, will facilitate the acceleration of change by integrating and synchronizing capabilities and technologies.”⁸ Aside from the potential momentum gains, consolidation under a single activity optimizes the capabilities of distinct organizations for a truly total approach. The mutually defined and agreed upon approach incorporates the following:

- Integrate all logistics functions into Objective Force development and Legacy/Interim Force Sustainment using matrixed approach.
- Focus continuous improvement efforts and gain synergy across the staff and commands.
- Identify and eliminate redundant change initiatives.
- Embed reliability, maintainability, and sustainability in design, procurement, fielding and reengineering processes.⁹

This approach not only provides organizational focus, but also serves to guide the integration and synchronization of over 84 logistics transformation initiatives. The strategy that best describes achievement of the Transformation logistics goals and objectives is Combat Service Support Reach.

COMBAT SERVICE SUPPORT (CSS) REACH

In order to make assured conquests it is necessary to proceed within the rules; to advance, to establish yourself solidly, to advance and establish yourself again, and always prepared to have within reach of your army your resources and your requirements.

— **Frederick the Great**
Instructions for his Generals, II (1747)

The Army's strategy of CSS Reach traces its origins to the Joint Staff publication, Joint Vision 2010. An evolutionary construct, JV 2010 and the subsequent update, JV 2020

embraced the potential realities of informational and other technological innovations to achieve greater flexibility, precision, and lethality. Specifically, the construct "...focused on achieving dominance across the range of military operations through application of new operational concepts...dominant maneuver, precision engagement, full dimensional protection, and focused logistics."¹⁰ Of these four concepts, focused logistics serves as the keystone to achieve the first three. Its tenets include:

- The fusion of information, logistics and transportation technologies to provide rapid crisis response, to track and shift assets even while enroute, and to deliver tailored logistics packages directly at the strategic, operational, and tactical level of operation.
- Be fully adaptive to the needs of our increasing dispersed and mobile forces, providing support in hours or days versus week.
- Enable joint forces of the future to be more mobile, versatile, and projectable from anywhere in the world.
- Incorporate information technologies to transition from rigid vertical organizations of the past.
- Establishment of modular and tailored combat service support packages.
- Work jointly and integrate with the civilian sector where require, take advantage of advanced business practices, commercial economies, and global networks.¹¹

The Army's CSS Reach concept and strategy were developed within the crucible of these tenets precisely because they enable realization of the overall aims of the transformation strategy. Field Manual 3-0, Operations, date 14 June 2001, provides the only approved doctrinal definition of reach:

"Combat service support reach operations involve the operational positioning and efficient use of all available CSS assets and capabilities, from the industrial base to the soldier in the field. They enable force commanders to extend operational reach and to deploy and employ the force simultaneously, without pause. CSS reach operations merge operational art and science into an operations enabler. They minimize the CSS footprint in theater by developing the minimum essential CSS elements to the area of operations and establishing links to and fully exploiting all available sources of support. CSS reach operations include the use of intermediate staging bases, forward deployed bases. Army pre-positioned stocks, and continental US resources. CSS reach operations capitalize on split-based and modular operations; they

take maximum advantage of all available sources of support for follow-on sustainment."¹²

Although this doctrinal foundation codified the intent of logistics transformation, the Army's logistics community further distilled the concept in the draft Field Manual, 4-0/100-10, Combat Service Support, Final Draft:

CSS reach operations refer to deploying the minimum essential Army CSS elements to the AO and establishing links to and fully exploiting all available sources of support. CSS reach operations include using normal support relationships as well as reaching in all directions to acquire available support from contractors, host nation support, other services, multinational partners, and Non-Governmental organizations.

Within the draft manual, achievement of CSS reach relies upon a myriad of organizational principles and technological concepts to include integration of the transportation network and robust information management systems, commercial sector business practices, contracting, host nation support, modularity, and integration with other services. Accordingly, these concepts and principles serve as the vehicle for development of doctrine and organization for the Transformation Objective Force logistics structure.

OBJECTIVE FORCE

Army Transformation envisages creation of an endstate force, dominant at every point on the spectrum of operations, that combines the lethality of today's heavy forces with the reaction capability of our light forces. To that end, the Transformation Campaign Plan is divided into three phases: Initial, Interim Capability, and Objective Capability that correlate to three forces - Legacy, Interim, and Objective.

During the Initial Phase, "...the Army will consist of the Legacy Force and the Transformed Forces, consisting of the five Interim Brigade Combat Teams."¹³ The Legacy force, improved by modernization and recapitalization of selected equipment, will continue to provide the capability to support the National Military Strategy and the Combatant Commanders. Transformed Forces, the five Interim Brigade Combat Teams, will provide "...insights and lessons-learned for subsequent transformation that will define the critical conditions necessary to develop the Interim Force."¹⁴ Additionally, this phase includes development of training and

leader tactics, techniques and procedures as well as organizational and doctrinal constructs to support the depth and breadth of all phases of Transformation.

The Interim Capability Phase is predominantly characterized by the fielding of six Stryker Brigade Combat Teams (SBCTs). Also during this phase, the Army consists of both Interim or Transformed (SBCTs) and Legacy Forces. The intent is to "...establish the preconditions for fielding the Objective Force by designing the Objective Force, demonstrating its utility through Joint and Army experimentation, and developing the rest of the DOTMLP-F solution and to bridge the gap between today's capabilities and the objective force."¹⁵ As the dominant feature in this phase, the SBCTs will participate in joint and multi-national training and experimental events, such as Millennium Challenge, to define or validate operational requirements and concepts for the Objective Force. The SBCT is a rapidly deployable component of the full spectrum force optimized in design to execute primarily Smaller Scale Contingency Operations (SSCO) against both conventional and asymmetric threats. Conceptually, the SBCT can deploy globally within 96 hours of first aircraft wheels up. To achieve this capability, the SBCT is designed to be C-130 transportable through use of a common, wheeled platform, the Interim Armored Vehicle or Stryker; a robust combat arms, combat and combat service support capability, preconfigured in ready-to-fight packages; a reduced personnel and logistics footprint; and communications networking to facilitate reachback operations. Although both the functional and operational doctrine (Field Manual 4-93.7) are in draft form, the SBCT can conceptually operate for up to 180 days without relief, but is only capable of 72 hours of self-sustainment based upon reduction in logistics footprint. Since the logistics footprint (e.g. equipment, supplies and personnel) is reduced, sustainment of the SBCT is dependent upon its ability to execute CSS reach operations as well as securing host nation or other Army CSS augmentation.

Phase III, the Objective Capability Phase is solely focused on the Objective Force itself. The intent is to "...transform the entire Army to the Objective Force, incorporating improvements at appropriate levels and lay the intellectual groundwork for the next major Transformation of the Army."¹⁶ The Objective Force, as defined in the final draft of the Objective Force in 2015 White Paper is:

"...the Nation's offensively oriented, Joint Information Mangement, interdependent, combined arms precision maneuver force that employs revolutionary multi-dimensional operational concepts enabled by technology. The Objective Force brings a campaign quality to the Joint Fight, ensuring long term dominance over evolving, sophisticated threats with asymmetric capability on a

non-contiguous battlefield against an adaptive adversary. It is capable of preemptive actions-able to anticipate and intervene in potential crisis situations before events progress contrary to U.S. interests. It is dominant across the full range of operations, to include those that can only be achieved with soldiers on the ground.”

Although not yet fully developed, the design construct for the Objective Force centers on Units of Action (UA) and Units of Employment (UE). Units of Action represent the building blocks of the Objective Force and will be the “...smallest combined arms element that can be committed independently, brigade and below.”¹⁷ Units of Employment are the higher echelon elements that synchronize and integrate UA operations at the high end of operations and are the “...basis of combined arms air-ground task forces, division and below.”¹⁸ The Objective Force construct will conceptually allow a brigade-size UA to deploy globally in 96 hours, a division-size UE in 120 hours, and five division-size UEs in 30 days. To achieve these deployment metrics and mutually, the overall aims of Transformation, the Objective Force construct capitalizes on tailorable organizations and preconfigured ready-to-fight packages; a fully integrated and synchronized, network-centric communications capability to achieve information superiority and facilitate reachback operations; maximum use of common vehicle platforms, specifically the Future Combat System, embedded with combat service support capabilities; and a reduction of personnel and logistics footprint.

OPERATION ENDURING FREEDOM OBSERVATIONS

Observations from Operation Enduring Freedom suggest that the latter of the Transformation logistics goals, reduction of the logistics footprint, may place mission accomplishment and Transformation Objective Forces at risk. Specifically, the operation revealed a persistence of historical difficulties for both strategic and operational dimensions that again, challenged the Army's ability to provide sufficient logistics forces and critical infrastructure.

STRATEGIC DIMENSION

The strategic dimension of Operation Enduring Freedom in Afghanistan, characterized by land-locked geography, compelling distances over significant lines of communication, and a limited infrastructure provided the first set of challenges to logistics planners. These challenges were compounded by the initial lack of collaborative planning with the United States Transportation Command (USTRANSCOM).¹⁹ As the responsible Combatant Commander for

strategic movement of all Department of Defense cargo, USTRANSCOM optimizes the transportation network through selection of the mode of transport (e.g. air, sea or surface) and resources (e.g. commercial, military or combination of both) to efficiently meet the supported Combatant Commander's requirements. Additionally, in coordination with the Department of State and U.S. military country teams, they obtain diplomatic clearances for country overflight as well as sea and airport access. This is particularly critical for countries in which there are no existing agreements. Although an operational issue, this point is significant in that it ultimately affected strategic movements and support by forcing USTRANSCOM to initially select a single and limited mode of transport to meet the Combatant Commander's constrained time line. To counter balance these challenges, planners initially relied solely on strategic airlift, establishing two air lines of communication northern and southern to move deploying forces and associated equipment as well as sustainment and humanitarian cargo (Figure 1). The northern route extended from the Continental United States (CONUS) through an aerial port of debarkation (APOD) in Germany. The southern route extended from CONUS through an APOD in Italy. Both APODs served ultimately as logistics hubs for trans-loading and onward movement of cargo into Afghanistan and Southwest Asia. However, numerous factors effected onward movement of cargo. Afghanistan's

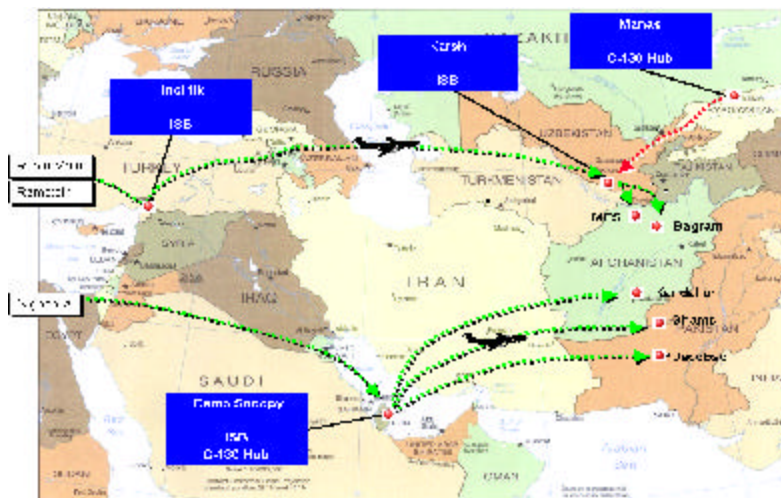


FIG 1 – AIR LINES OF COMMUNICATION

airfields and associated infrastructure in disrepair before the war, were further damaged during U.S. and allied air operations resulting in stringent Maximum (aircraft) On Ground (MOG) limitations and capability restrictions to either C-130 or C-17 aircraft. Although not damaged in

the war, airfields in adjacent Uzbekistan and Pakistan were limited in capability. As a result, trans-loading of cargo was required from C-5 or C-141 aircraft to the smaller C-17, causing delays and doubling of aircraft requirements. Significant air distances from logistics hubs to Afghanistan and surrounding Central Asian countries, were also a factor causing planners to establish intermediate staging bases (ISBs) in Turkey and Uzbekistan for the northern air route and Qatar for the southern air route. Intra-theater airlift then distributed cargo to ultimately six operating bases in Afghanistan and Pakistan. Increased man-portable air defense (MANPAD) threat also inhibited onward movement by limiting aircraft to random day and night operations. Likewise, environmental conditions also hampered movement of cargo, especially heavy fog characteristic of both Uzbekistan and Afghanistan during the late fall and winter months.

Limited infrastructure also posed distinct strategic challenges. Afghanistan is an extremely austere country with no sea access, severely degraded airports, limited public services, no railways, and an extremely restricted and deteriorated road network. Equally lacking was the availability of equipment, supplies, and services that could be readily contracted to support deployed forces. As a result, all equipment and supplies, (predominantly food, water and initially fuel), had to be airlifted from CONUS or Germany through the ISBs and ultimately to operating bases. This dependency on airlift was further exacerbated by:

- Competing priorities for between movement of forces and sustainment cargo.
- Insufficient logistics units to process, segregate and reconfigure supplies for onward movement at either the ISB in Turkey or Uzbekistan.
- Requirement to simultaneously build to a 30-day stockage level for selected classes of supply.
- Limited intra-theater lift between ISB in Turkey and Uzbekistan.
- Requirement to transload aircraft cargo at the ISB in Turkey;
- and a restricted Maximum (aircraft) On Ground (MOG) limit.

To offset the dependency on airlift, the Combatant Commander, European Command (EUCOM) initiated rail movements from Germany through Russia to Uzbekistan (Figure 2). Although somewhat successful, rail movement was hindered by a number of political and operational difficulties. Movement required approval from host countries and was limited to primarily food and water. Additionally, the rail gauge changed in the Ukraine requiring transload of cargo to different railcars with the requisite gauge. Also, some trains were delayed two or more days at border crossings for documentation problems. The average rail

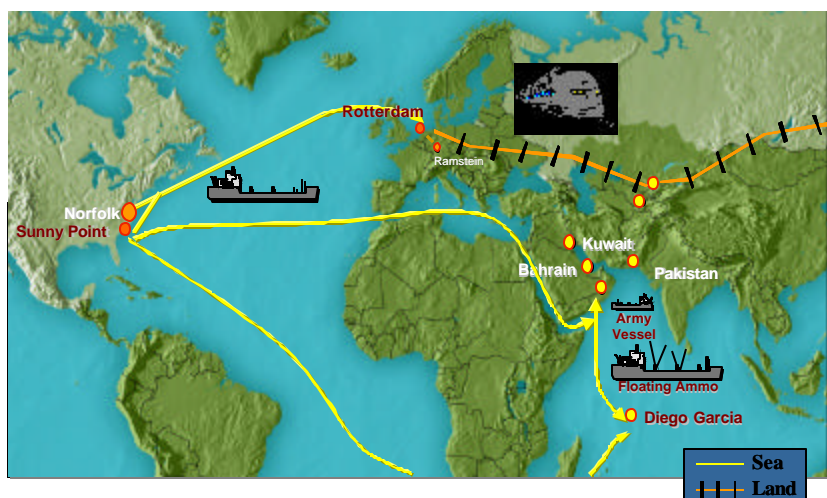


FIG 2 – SEA AND RAIL LINES OF COMMUNICATION

movement took approximately 23 days from Germany to Uzbekistan.²⁰

Sealift was also later incorporated, transporting equipment and sustainment cargo along northern and southern routes. The northern route extended from CONUS to Rotterdam, Holland and Bremerhaven, Germany. Cargo was then moved via rail to Uzbekistan. The southern route extended from CONUS to Bahrain, and then to Karachi, Pakistan after transloading. From Karachi, cargo moved by rail to Quetta, Pakistan and then by truck to Kandahar, Afghanistan. The Army's Logistics Support Vessel was also deployed to Kuwait to transport Army, Air Force and Navy cargo between Oman, Qatar, and Kuwait. All of these initiatives ultimately resulted in avoidance of more C-17 missions. A test was also conducted using commercial trucks to move sustainment cargo from Germany to Uzbekistan. However, significant time, border delays, and truck breakdowns precluded sustained use. Commercial trucks, contracted with Uzbekistan vendors, were also used to shuttle cargo initially from Karshi Kahnabad, Uzbekistan to Mazar-e-Sharif and Bagram, Afghanistan. The route from Karshi to Bagram covered 650 kilometers over poor roads and through high elevations (Figure 3). A significant impediment to reaching Bagram by road was the Salang Tunnel, which had been blocked with debris and mines by retreating Soviets at the conclusion of the Afghan-Russian War. When the tunnel was finally cleared by French and Russian engineers in December 2001, trucks were capable of reaching Bagram from Karshi in two and

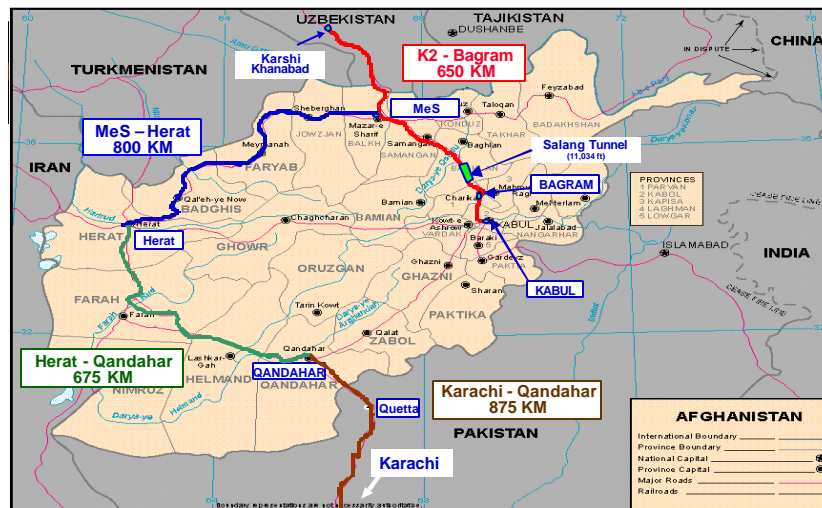


FIG 3 – AFGHANISTAN ROAD NETWORK

a half to three days unless the tunnel was blocked by avalanches. Later in the operation, logisticians contracted trucks to deliver supplies over a western route to Herat and Kandahar, Afghanistan.

Obviously, such transportation limitations are not unique to Afghanistan. The Army has confronted similar situations in the wake of Operations Desert Shield and Desert Storm. Experiences in Somalia and Albania bear stark resemblance to those difficulties encountered in the Central Asian States. In Somalia, "...the Mogadishu airport was capable of handling no more than two aircraft a day...and during the initial phase, ships were unable to offload their cargo because of a combination of rough seas and inadequate port facilities."²¹ Additionally, the region's distance from established U.S. bases complicated strategic deployment. Mogadishu was 24 hours from the United States by air and two weeks by sea.²² Somalia was "...devoid of any useful infrastructure..." and consisted only of a network of deteriorated roads primarily linking coastal towns.²³ The deployment of Task Force Hawk to Albania also reveals striking similarities. It was constrained by the austere transportation infrastructure as well as competing priorities for deployment of humanitarian supplies, forces, and sustainment, all pushed through one APOD with a Maximum (aircraft) On Ground (MOG) of three aircraft.²⁴ As in the Afghanistan operation, units in Albania "...were assigned locations

that could not geographically support their operation because of space constraints.²⁵ Even with a fairly well-developed infrastructure and skilled workers in the Balkans, the strategic intermediate staging base (ISB) at Tazar, Hungary, experienced congestion and onward movement problems as the single confluence of rail, bus, truck and air transportation from the central region of Europe.²⁶

OPERATIONAL DIMENSION

The old saying live and learn must be reversed in war, for there we learn and live; otherwise we die. It is with this learning, in order to live, that the Army is so vitally concerned.

— US War Department Pamphlet 20-17, July 1945

The operational dimension of Operation Enduring Freedom, characterized by piecemeal introduction of forces and capabilities and the execution of nonlinear offensive operations over a noncontiguous area of operation, strained logistics planners' ability to sustain deployed forces. Three factors influenced the piecemeal introduction of forces and capabilities. First, early deployment of Army Special Operation Forces (ARSOF) necessitated establishment of additional support. As a result, the Army, specifically the U.S. Army Central Command (ARCENT) was tasked by CENTCOM to serve as the enabling force providing logistical and force protection support. Secondly, according to the United States Army War College's Draft Case Study, The First Year: U.S. Army Forces Central Command During Operation Enduring Freedom, the United States Central Command's (CENTCOM) concept of operations did not include U.S. Army maneuver elements nor did it include detailed troop lists for subsequent phases. The last factor was imposition of DOD established force caps.²⁷ The sum of these factors is best described in the following paragraph also from the United States Army War College's Draft Case Study:

"Rather than the plan serving to pull troops forward, COL Rich Kaiura, C-5 Plans, described this as requirements being generated by operations. New tasks from CENTCOM, such as conduct detainee operations and sensitive site exploitation would create new unplanned requirements. Requests for forces by capability were then generated by the staff for submission through joint channels to the Army."

This requirement to request capability by operation rather than in accordance with a predetermined flow as specified within an operational plan, coupled with the force cap, precipitated development of a formal Request For Forces (RFF) process. Conceptually, this process would provide the necessary oversight to preclude introduction of forces above the DOD-mandated levels. Additionally, the process would also theoretically improve the velocity of movement by decreasing the lift associated with moving only specific capability instead of whole units. Paradoxically, the process contributed to neither.

REQUEST FOR FORCES

ARCENT, based upon a requirement for capability to support a specific operation, would prepare a Request For Forces (RFF) and forward that request to the Combatant Commander, CENTCOM for validation. Once validated, the request was forwarded to the Joint Chiefs of Staff for validation and selection of either a Combatant Command or service component to provide the forces. The Combatant Commander tasked to provide forces would forward the request to the appropriate force provider for sourcing of the capability. Likewise, the service component would task the appropriate command for sourcing. Once sourced, a deployment order was issued providing the required delivery date (RDD) for the capability to arrive in theater, as well as other important movement data. The result of this time-consuming process was a total of “18 of 159, or eleven percent of completed Deployment Orders (DEPOD) published after the RDD and another 27 DEPODs, or seventeen percent, contained elements published after the RDD.”²⁸ These delays drove planners to an exclusively air-centric deployment construct that ultimately delayed unit and sustainment arrival in theater. Additionally, some units who received their alert notification as a result of an RFF were never mobilized. For example, some units alerted on 3 October 2001, were still in alert status 30 May.²⁹ This occurred because there was no process, once the RFF was validated, to remove the unnecessary unit from alert status. As a consequence, units expended additional funds to bring key soldiers on active duty with commensurate costs associated with feeding, housing and providing transportation.³⁰ More significant was the impact on the soldiers, their families, and their employers.

MOBILIZATION

The Request For Forces process became even more cumbersome and dramatically time-consuming when mobilization of the Reserve Components was required. This additional step required the force provider to issue an alert order, then generate a request for mobilization to the Department of the Army(DA) Staff for validation. Once staffed and validated, the approval

was returned to the force provider. Deployment orders for a specific Reserve Component unit or capability were then subsequently issued. One such example of this time-consuming process begins with a Request For Forces generated on 16 December 2001. After staffing, the unit was alerted on 6 January 2002 and mobilized on 27 January 2002 with a latest arrival date in theater of 20 February 2002.³¹ In this example the elapsed time from the Request For Forces to issue of the deployment order was 37 days. Another 24 days elapsed before the unit was actually deployed. Therefore, the capability required in days or weeks arrived almost two months later. Mobilization was also hampered by soldier readiness, reserve component equipment modernization, percent of unit fill, and selection of specific capabilities from units.

Historically, individual soldier readiness issues have hampered mobilization. OEF was certainly no exception. In a sampling of 1,058 soldiers processing through one mobilization station, 97 percent required dental care of some nature and over 95 percent required some form of adjustment to their finance records (Table 1).³²

<i>Deployment Requirement</i>	<i>Number of Soldiers Requiring Support</i>	<i>Deployment Requirement</i>	<i>Number of Soldiers Requiring Support</i>
DD-93	292	HIV	409
SGLI	180	Immunization	813
ID tags	497	Dental	1021
ID cards	816	Panoraphs	258
Wills/Power of Attorney	236	Inserts/glasses	353
Pay	1003		

TABLE 1 – SAMPLE OF SRP RESULTS FOR ONE MOBILIZATION STATION

Likewise, modernization of reserve component equipment affected mobilization, specifically in terms of unit rotation. One example illustrative of this point was the requirement to deploy a rough terrain container handler (RTCH) to move 20 foot containers in and around the ISB at Karshi Kahnabad, Uzbekistan. A modernized RTCH called the KALMAR had been produced and fielded in limited quantities to only a few active component units, specifically XVIII Airborne Corps and 7th Transportation Group. This RTCH had greater capability and theoretically, improved reliability than the older Caterpillar version. Additionally, the KALMAR could be reduced for airlift in four to six hours compared to 24 or 36 hours with the Caterpillar RTCH. Since the reserve component units were not modernized with the KALMAR, an active unit was selected for the mission. Before conclusion of their six-month rotation in theater, a decision was made to leave the KALMAR RTCH in country to reduce lift requirements. A

rotational unit would simply deploy only their soldiers and fall in on the equipment. Yet, reserve component units were still not fielded with the equipment, forcing planners to select another active component unit to fulfill the requirement.

This point is significant for three interrelated reasons. First, the reserve component contains 72 percent of the Army's combat service support units.³³ If their equipment is not modernized commensurate with that of the active component, then the rotational and corresponding operational tempo for modernized active component units, specifically those with unique or niche capabilities and equipment, expands exponentially in dramatic ways over time. For example, specifics of a rotation policy can increase the number of people affected. The shorter the rotations, the more units are involved. Rand Arroyo Center researchers for example, calculated that in a theater employing 10 units, a rotation policy of 180 days will affect 15 additional units; one of 120 days will affect another 20 units.³⁴ Secondly, leaving limited, modernized equipment behind in theater ultimately affects overall readiness of the unit because they cannot train or have an immediate replacement to meet wartime requirements. Last, and perhaps more importantly, the active component clearly does not have the combat service support structure to meet unique or niche requirements simultaneously in multiple locations in the same theater or in multiple theaters of operation and still maintain an acceptable level of readiness or quality of life.

Unit percent fill also affected mobilization in unintended but clearly predictable ways. The most acute example involved Mortuary Affairs (MA) companies, a low-density/high-demand organization, of which there are three in the Army's Operating Force, one in the active component and the remaining two in the reserve components located in Puerto Rico.³⁵ Each company is authorized twenty teams. The tragic attack on the Pentagon necessitated immediate deployment of MA teams to process human remains. To perform that mission, five of twenty active component teams from the 54th Mortuary Affairs Company, Fort Lee, Virginia were deployed to Washington, D.C., establishing operations at Fort Meyer, Virginia. The company also had five other teams deployed in support of other world-wide operations, reducing the company's available strength to ten teams for potential missions. However, as the tempo of Operations in Afghanistan increased, so too did the need for MA teams. Planners then decided to mobilize reserve component MA companies. Of the two available, only one the 311th MA Company, had sufficient fill of unit personnel to perform the mission. Even so, additional significant individual training was required to enable the unit to accomplish their mission. Also, the majority of the company's mission essential equipment was stored in two separate locations outside of Puerto Rico. The remaining reserve component unit, the 246th

MA company was of insufficient personnel strength and therefore provided the preponderance of their remaining personnel to the 311th MA Company. Eventually, the 311th MA Company with this augmentation, provided the authorized twenty teams to meet MA requirements previously conducted by the active component unit.³⁶ Of the 363 reserve component Mortuary Affairs soldiers available to support operations, 332 were ultimately committed, leaving only 31 soldiers for potential missions.³⁷ The active component company was then available to provide three teams to support Operation Enduring Freedom as well as two other teams to support Kosovo (KFOR) operations and the Combatant Commander, Pacific Command respectively. This example is particularly instructive and is not a phenomena solely confined to the reserve components. Indeed the current operational tempo (OPTEMPO) of active component combat service support units could lead to similar problems when deployments in support of multiple locations in the same theater or in multiple theaters of operation are coupled with the practice of using personnel from unit to supplement another.³⁸ A poignant illustration is our Army's current operational tempo. As of 1 August 2002, the Army had 186,420 soldiers deployed or forward stationed in 120 countries to include the United States, a figure representing 24 percent of the Army's Operating Forces.³⁹

Mobilization was also hampered by the practice of selecting only a specific capability from a unit, rather than the entire unit. Derivative Unit Identification Codes (DUICs) were created as the mechanism to obtain that specific capability. In this way, planners could meet requirements without exceeding the DOD force cap or deploying unnecessary equipment to an already space-constrained operating base. This practice demanded an exhaustive planning effort to lash equipment and personnel ultimately slowing the mobilization process. More profoundly, the outcome resulted in breaking structure and reducing the capability to meet future demands.⁴⁰ Although the practice did not include a significant number of combat service support units, the point is of consequence based upon potential for replication in future scenarios. Additionally, with the exception of Individual Ready Reserve (IRR) volunteers, access to the IRR was not allowed to meet individual mobilization requirements for the operation.⁴¹ Again, DUICs were created to mobilize individual soldiers from their unit, again, reducing a unit's capability to meet future requirements. A review of the Army's operations in the Balkans reveals analogous events. Throughout the operation, the Army was filling derivative units with individuals taken from the original and other Selected Reserve units resulting in the formation of over 700 derivative units.⁴²

Previous operations offer some instructive parallels. Of the many observations documented at the conclusion of Operation Desert Shield and Operation Desert Storm

(ODS/ODS), none were more revealing than those pertaining to mobilization and the Army's inability in providing ready support forces. One such report stated "because of this heavy reliance on the reserves for early deployment and sustainment missions, it is important that the Army be able to quickly mobilize;...in analyzing the Army's mobilization of support forces for the Gulf war, we found that the Army had difficulty supplying the needed forces..⁴³ The same report further stated "due to the Army's peacetime staffing and equipping strategies, many of the support units sent to the Gulf required extensive infusions of both personnel and equipment to ready them to deploy; despite these transfers, many units were sent to the Gulf at a lower readiness level.⁴⁴ These points are particularly relevant when considering the sheer number of reserve component, CSS units mobilized for contingencies. During Operation Desert Shield and Operation Desert Storm (ODS/ODS) for example, the Army mobilized 139,400 reservists involving 1,033 units that were dispersed in CONUS (284 units); Europe (41 units); and Southwest Asia (708 units).⁴⁵

Leaping ahead four years to operations in the Balkans, similar observations were again expressed. In particular, "...although the Presidential Reserve Call-UP (PSRC) was signed in early December, activation took place after the deployment started."⁴⁶ The result was late arrival of key units and personnel. To compound the situation, "...Army CS/CSS units (were) not manned by either ALO or ODP to meet the extended requirements of contingency operations..."⁴⁷ Again, these points are relevant in terms of the scope of operations. During the period December 1995 to November 1997, 60 percent of the reserve component personnel deployed to the Balkans were combat service support soldiers.⁴⁸ Of that number, 48 percent were soldiers from low-density/high-demand units. Conversely, during Operation Allied Force (Kosovo), commanders experienced shortages of personnel and capability precisely because the reserve components had not been activated in the early stages of the operation.⁴⁹

LOW DENSITY/HIGH DEMAND UNITS

The intertwining of the physical environment, nature, and conduct of the operation, necessitated deployment of unique logistics capability traditionally performed by low-density/high-demand (LD/HD) units. Although constituted in both combat service and combat service support, the preponderance are logistics units that perform a wide range of transportation, quartermaster and maintenance functions. Additionally, the vast majority of these units are currently in the Reserve Components(RC). Availability, variety, readiness and operational tempo of these units, however, strained the Army's ability to support operations in

Afghanistan and elsewhere. Two relevant examples illustrative of this phenomenon during OEF were life support and mortuary affairs, of which mortuary affairs has been previously discussed.

Initial life support for deployed and deploying forces was initially provided by the Air Force using two of their Harvest Falcon sets. These sets provided shelter, power generation, laundry, bath, food and water for 550 personnel per set. A portion of the Army's Special Operations Support Battalion as well as a limited number of other Army logistics forces augmented the Air Force base support operations effort. As the nature and tempo of operations increased, so too did the support requirements for an ever expanding equipment and personnel footprint. To mitigate potential shortfalls in life support, the Army deployed Force Provider sets from war reserve stocks. Similar to the Air Force Harvest Falcon set, Force Provider is also a modularized system that provides shelter, food, power generation, laundry and bath for 550 personnel. Each module requires a Quartermaster Force Provider Company, consisting of six platoons for complete operation. However, the decision to deploy these type of companies was hampered by availability and readiness. Of the six companies in the Army inventory, only one is an active component (AC) unit that supports the Joint Readiness Training Center (JRTC) rotations and serves as the training base for the five RC Force Provider companies. These specific missions precluded deployment of the AC company. The five RC companies contained only a below-strength headquarters element and had no associated platoons. Although the decision was ultimately made to send two of the RC Force Provider companies, significant augmentation was required in theater to operate the modules. Specifically, combat troops were required to erect the modules while limited logistics personnel, and contractors were required to operate the modules. Ultimately, a Logistics Civilian Augmentation Program (LOGCAP) contract was signed to provide base operations (BASOPS) support to include food, fuel, power generation, laundry and bath, as well as maintenance for Karshi Kahnabad, Uzbekistan and Bagram, Afghanistan at a cost of 23 millions dollars.⁵⁰

Although this example is limited in scope, it is representative of the historically chronic problem associated with traditionally low density/high demand units. The potential for just such a problem during Operation Enduring Freedom was apparently recognized early on as evidenced by the initial personnel policy guidance. The guidance specified that "reserve component units and individuals are mobilized for 365 days with a potential one-year extension."⁵¹ However, in the same message it states "selected high usage RC units and soldiers with critical skills (CONUS and OCONUS) may be ordered to active duty for an initial period of up to 24 months..." suggesting a clear understanding of the issue.⁵² The problem is further exacerbated by a number of other contributing factors: disparate mix, quantity and

variety of CSS units between the active and reserve components; a smaller reserve combat force structure; an increase in the number of smaller-scale contingencies; and performance of non-traditional roles for reserve component CSS forces.

To find the disparity of mix, quantity and variety between active and reserve component forces, one has to search no further than construct of the Army's Operating Forces. As stated earlier, 72 percent of the Army's CSS structure is contained in the reserve components.⁵³ Of that total, 64 percent are echelon above division units including most low density/high demand units. Operations Desert Shield and Desert Storm (ODS/ODS) foreshadowed a need to correct this imbalance between reserve and active components. During these operations, 40 percent of all active component CSS units were deployed and 60% of all reserve component CSS units.⁵⁴ Also during the conflict the Army deployed all of some types of nondivisional support units and depleted some other types of units, even though it deployed only a fraction of it's total active force; specific types of units affected included quartermaster and transportation units.⁵⁵ However, a number of factors precluded these shortfalls from becoming a potentially serious disaster: six months timeframe prior to combat to buildup forces and the sustainment base; advantage of unattired supply lines; extensive sea and airport infrastructure; robust host nation support; and fruition of the Army's force modernization programs.

Since ODS/ODS, a number of studies and analyses have further refined CSS force structure shortfalls and enumerated potential options to mitigate risk. However, the process for determining force requirements has not matured enough to provide a sound basis for all requirements in order to realize the potential of options presented.⁵⁶ Although following close on the heels of ODS/ODS, the Bosnia experience is evidence of this lack of process maturation. Of the five force structure recommendations highlighted in the Bosnia-Herzegovina, After Action Review, two stipulated the need for balance, quantity and variety: "review AC/RC MIX OF CS/CSS capabilities required to provide support to contingency operations and to enhance the ability of CS/CSS to task organize to meet contingency operation requirements."⁵⁷

Another contributing factor to the disparity of mix, quantity and variety between active and reserve component forces is the reduction to the reserve component force structure. Since the end ODS/ODS, the size of the reserve component has shrunk by 25 percent.⁵⁸ Commensurately, this has dramatically reduced some combat service support capability while partially increasing others (table two.) Although the departure of the draft 2002 National Military Strategy from a two major theater war construct may in theory further reduce total force structure requirements, it falls short in historical acknowledgement of forces, (specifically logistics forces), required for SSCOs. Since the end of ODS/ODS, the Army has been

increasingly involved in SSCOs. Field Manual 3-0 offers the following description of SSCOs; “stability operations that respond to crises are smaller-scale contingencies and may include both developmental and coercive actions.”⁵⁹ The Joint Staff Instruction 3500.01B, states that smaller-scale contingency operations “...encompass a wide range of activities where the military instrument of national power is used for purposes other than large scale combat operations usually associated with war.”⁶⁰ Utilizing these broad definitions, U.S. military forces have engaged in 170 distinct SSCOs, varying from humanitarian assistance to peacekeeping, and average of 20 to 30 a month.⁶¹

	FY 92			FY 99			Total Change FY 92 - FY 96
	ARNG	USAR	TOTAL	ARNG	USAR	TOTAL	
Water Supply Battalions	2	3	5	9	2	11	+ 6
Petroleum Support Battalions	7	6	13	20	12	32	+ 19
Motor Battalions	10	14	24	2	12	14	- 10
Maintenance Battalions	21	17	38	13	5	18	- 20
Petroleum Groups	0	2	2	0	1	1	- 1
Corps Support Groups	4	15	19	4	10	14	- 5
Terminal Battalions	0	4	4	0	4	4	no change
Corps Support Commands	2	2	4	1	1	2	- 2
Area Support Groups	9	8	17	8	21	29	+ 12
Ordnance Battalions	1	5	6	2	2	4	- 2
Theater Support Commands	0	2	2	0	2	2	no change

TABLE 2 – RESERVE COMPONENT RESTRUCTURING FOR SELECT COMBAT SERVICE SUPPORT UNITS

Inherently, these types of operations are logistics intensive requiring a far greater number of combat service support units, specifically those capabilities associated with low-density/high-demand units. For example, the Somalia operation required 75 percent of all active petroleum supply companies in the active force structure; 67 percent of the medium petroleum truck companies; and 100 percent of the air terminal movement control teams and general supply companies.⁶² The Army’s experience in the Balkans revealed similar trends. Specifically, three types of movement control units may have been difficult to provide in future rotations because these types of units, predominately in the reserves, were already mobilized and participating in the Bosnia mission.⁶³ Upon conclusion of Operation Allied Force, Admiral James O. Ellis, Commander, Joint Task Force Noble Anvil, presented the following observations relating to low density/high demand personnel and assets:

- The trend is in the wrong direction...the demand will only get higher.

- The density cannot remain low.
- Impacts of this campaign will be felt for years.
- We do not leave home without them. And without them...we cannot leave home.⁶⁴

SSCOs also slowly deteriorate warfighting skills over time, especially if the unit remains in static locations.⁶⁵ These skills can take upwards of six months to restore when recovery, leaves, maintenance, schools, redeployment of equipment, and both individual and collective training are considered.⁶⁶ Smaller-scale contingency operations will continue to strain CSS force structure until the Army divorces its assumption that forces engaged in contingencies would be redeployed to war-fighting if a conflict arose and therefore does not calculate any additional requirement for such contingencies.⁶⁷

Non-traditional use of certain CSS units also has a significant impact on low-density/high-demand units. For instance, during Noble Eagle, a decision was made to provide a CONUS-wide, security escort vehicle service for vehicles moving Security Risk Category I and select, Category II arms and ammunition. The intent of the operation, Task Force Noble Escort, was to provide security, positive movement control, and in-transit visibility.⁶⁸ Reserve component units were mobilized to execute the mission and included three movement control teams, three truck companies and one movement control battalion. While each of these units performed a limited portion of their doctrinal mission, the preponderance required specialized training not normally associated with their type of unit or soldier military occupational skills. More importantly, performance of this non-traditional mission rendered them initially unavailable in event of a major conflict and began the slow erosion of their wartime capabilities.

Admittedly, units performing non-critical missions such as Combined Training Center rotations could be redirected to meet unexpected contingency requirements, but in the wake of an extremely uncertain strategic environment, would we be willing to accept such a shortfall in capability? Martin Van Creveld in his book, Technology and War, suggested that if logistics structure is to be agile under "...changing circumstances and be capable of switching from one objective to the next; if, in short, it is to be capable of coping with the uncertainty that is the result of enemy action and, as such, inherent in war-in that case a certain amount of redundancy, slack, and waste must not only be tolerated but deliberately built in."⁶⁹ Of the few recorded initial impressions of Operation Enduring Freedom, this point was given unambiguous attention by the U.S. Army War College, Center for Strategic Leadership. Specifically, "Many military occupational specialties and organizations that are important (high demand)...are of low density based upon previous strategies. Force structure must be reevaluated and

adjusted...Notable elements of the force requiring increased emphasis include Army Special Operations Forces (ARSOF), Military Police, and logistics.⁷⁰

CONTRACTORS

Contractors deployed in many cases alongside their military counterparts to provide technical expertise and maintenance of Army systems. Some of the first contractors on the ground in Uzbekistan were deployed to provide maintenance expertise for laundry and dryer system (LADS) organic to specific Quartermaster units. As the number of forces and sophistication of equipment increased, additional contractors were deployed to assist in tasks including erection of Force Provider modules, aviation maintenance, ammunition management and base operations support as part of the Logistics Civilian Augmentation Program (LOGCAP) to include food, fuel, power generation, laundry and bath, as well as maintenance for Karshi Kahnabad, Uzbekistan and Bagram, Afghanistan. As of 19 February 2003, a total of 413 contractors were in theater operating at Bagram and Kandahar, Afghanistan as well as Karshi Kahnabad, Uzbekistan.⁷¹

The sizeable number of civilian contractors in the Afghanistan Theater of Operation, while not unprecedented in the Army's history, is reflective of our growing dependence on their services and expertise. For example, the ratio of civilian contractors to military personnel has ranged from a low of one to one hundred in ODS/ODS to a high of about one to one in the Balkans (table three).⁷² During Operation Allied Force in Kosovo the Army had at times, more contractors than it did soldiers.⁷³

<u>War/Conflict</u>	<u>Civilians</u>	<u>Military</u>	<u>Ratio</u>
Civil War	200,000(est)	1,000,000	1:5(est)
World War I	85,000	2,000,000	1:20
World War II	734,000	5,400,000	1:7
Korea	156,000	393,000	1:2.5
Vietnam	70,000	359,000	1:5
Persian Gulf War	5,200	541,000	1:100
Balkans	up to 20,000	up to 20,000	about 1:1

TABLE 3 – CIVILIAN CONTRACTOR TO MILITARY RATIOS

This growing dependence stems from a number of factors:

- Strategic Guidance: The 2001 Quadrennial Defense Review suggests that the contractor-to-soldier ratio will continue to rise and that contracting out battlefield services will become as common as hiring private companies to build tanks.⁷⁴ Further, the 2001 QDR states "...only those functions that must be done at DOD should be kept at DOD."⁷⁵
- Funding and Technology: Acceleration of technological change and its associated cost reorients the decision process to favor civilian contractor logistics support primarily because the volume of activity permits economies of scale, resulting in lower costs.⁷⁶
- Force Reductions: Since 1989, military personnel have been reduced by 35 percent and DOD civilian employees by 44 percent.⁷⁷
- Political Flexibility: For example, despite his promise to limit the number of deployed troops to fewer than 20,000 during the Balkan Operations, President Bill Clinton's authority gave him the political flexibility to deploy over two thousand additional civilians to support the operational force.⁷⁸ Likewise, President Lyndon Johnson during the Vietnam War avoided congressionally mandated troop ceilings by employing over (70,000) contractors during the most intensive part of the war.⁷⁹

Despite these factors, the use of contractors in the battlespace remains controversial. Unlike their military counterparts, civilian contractors do not share the same legal status as combatants. In fact, contractors are neither combatants nor noncombatants under the laws of land warfare, rather they occupy a special niche called civilians authorized to accompany the force.⁸⁰ As a result, they are not entitled to all of the protection rendered to combatants. Therefore, they may not be given any responsibility or clothing (e.g. military uniforms) that would jeopardize their status. Although contractors cannot be legally identified as targets for military engagement, the functions they support can be.⁸¹

Additionally, contractors cannot provide for their personal security. To mitigate consequences of this restriction, contractors are assigned duties in areas traditionally held as less dangerous. Army Regulation 715-9, Contractors Accompanying The Force, dated 29 October 1999, states that contractors will normally be "...assigned duties at Echelons-Above-Division (EAD),...the senior military commander may determine whether they may perform their services as far forward as necessary, on a temporary basis, consistent with the terms of the

contract and tactical situation.⁸² However, this is a particularly curious point considering redesign of the battlespace in the Army's revised operations doctrine. Field Manual 3-0, Operations, dated 14 June 2001, states that one of the dimensional characteristics of land combat operations "...is the simultaneous and sequential operations in contiguous and noncontiguous AOs."⁸³ Further, FM 3-0 states that "nonlinear operations are now more common than ever."⁸⁴ Inherently, nonlinear and noncontiguous operations demand additional force protection assets. The number of assets increases exponentially when civilian contractors who may not defend themselves, are added. Consequently, military forces must provide this function, ultimately reducing the number of combat or other forces available for potential missions. One proposal to side-step this issue, is to require contractor personnel to be military reservists.⁸⁵

There are other questions about the Army's significant reliance on civilian contractors. For example, will contractors leave if events become risky and they feel their lives are in danger? At least in one case, this has happened. During ODS/ODS, one civilian contractor removed its personnel contending that concern for its employees prevailed over any profit motive.⁸⁶ Paradoxically, our dependency on contractors remains incongruous with our current Army Doctrine. Army Regulation 719-5 states that "contractor-provided support is designed to augment military force structure: it does not replace military force structure."⁸⁷ Historical examples indicate the potential inability to meet this requirement in the future. For instance, in the aftermath of Operation Just Cause, a 1991 inspector general's report stated that if contractors had defaulted in maintaining one critical data-processing system, it could have caused the delay or cancellation of the entire operation.⁸⁸ The most alarming question is how can we ever recover, in terms of force structure, if the contractor strategy fails? Some estimates suggest that it would take nearly 20 years before the military could adequately train and regain the experience and capability now resident in its personnel.⁸⁹ That number of years may be conservative considering the Army does not know how many contractors it has. In fact, "a preliminary report to congress...guessed that the Army contracted out between 124,000 and 605,000 person work years in 2001"⁹⁰ As Major General (Retired) William Richardson stated, "smaller may be the prevailing business mantra, but it just might not work for armies in wartime."⁹¹ Perhaps of greater concern to explore, is the second and third order impact civilian contractors may have on execution of foreign policy and National Security Strategy. U.S. Army soldiers providing water and sustenance in a Sub-Saharan Africa country in theory advance our

U.S. national policy and values. That said, do contractors seeking profit from their labors represent the same?

ARMY SUPPORT TO OTHER SERVICES

The impact of a reduced logistics footprint coupled with Afghanistan's and neighboring host nation's limited infrastructure, as well as an increase to the overall force structure, heightened when ARCENT was tasked to execute a portion of the Army's Wartime Executive Agency Requirements more commonly known as Army Support to Other Services (ASOS). ARCENT was tasked to provide over 140 ASOS requirements for the entire force. Of these, the most demanding were water, food, fuel, and common user land transportation and were provided in varying degrees to four, geographically dispersed operating bases within Afghanistan, and two in Pakistan.⁹²

Despite numerous attempts to provide water and food through local contracts with host nations, the quality was judged too poor to be of any significant benefit. As a result, both commodities were moved via rail, air, and eventually sea from either CONUS depots or from Defense Logistics Agency warehouses in Europe to the intermediate staging base (ISB) at Karshi Kahnabad, Uzbekistan with further distribution to each operating base. Also, as food preparation requirements increased, additional cooks from CONUS and portions of the Force Provider Kitchen module, located at Karshi Kahnabad, were deployed to mitigate shortfalls in capability.

The preponderance of increased fuel requirements was initially met by the Air Force through wet-wing operations. As the theater matured, fuel was later obtained through contracts with neighboring host nations. However, limited and treacherous roads combined with rogue bandits and unscrupulous drivers precluded routine scheduled delivery. Additionally, the grade of some fuel required conversion to be of any use in military systems, especially aviation. To convert the fuel and assure quality, planners deployed additional combat service support units and equipment, specifically mobile fuel labs and injectors. By August 2002, Army logisticians had supervised the delivery of over 9,000,000 gallons of fuel and 7,500 tons of Class I.⁹³

Further deployments of combat service support capability were required for receipt, storage, issue and requisition of additional supplies to support both Army and ASOS requirements. To that end, a reserve component, General Supply Quartermaster Company was deployed to provide logistics support both in Bagram and the logistics hub in Qatar. Breaking apart of units was characteristic of all logistics operations within the Afghanistan Theater of Operations in order to compensate for force cap limitations and yet maintain an acceptable level

of support. Additional efficiencies were gained through split-based and limited, decentralized operations. Although this strategy succeeded, the stress on combat service support was evident in both man and machine.

Historically, Wartime Executive Agency or Army Support to Other Service requirements have challenged logistics planners and the capability of combat service support units. The Army is currently responsible for 48 different functions specified in Title X of the U.S. Code; Department of Defense Directives or Instructions; and Joint Staff, Combatant Command or Interservice Directives.⁹⁴ However, Joint Staff Publication 2-0, Unified Actions Armed Forces states that “executive agent responsibilities and activities assigned to the Secretary of a Military Department may serve as justification of budgetary requirements but will not be used for establishing additional force requirements.”⁹⁵ As a result, Army requirements for 35,000 spaces identified in Total Army Analysis (TAA) 009 to perform these functions could not be filled.⁹⁶ The impact on CSS capability as a result of this strategy can be staggering, especially if requisite numbers of and varieties of CSS units are deployed late or not at all, or are otherwise unavailable based upon force reductions or overlapping missions. During ODS/ODS for example, the Army’s Executive Agency responsibilities for inland surface transportation, port operations, food, backup water support, selected class II and IV, bulk fuel distribution, common munitions, medical supplies, veterinary services, construction support and graves registration was directed to begin between C+30 and C+60.⁹⁷ Some of the executive agency support was met through host nation support. However, other executive agency support was not provided until after C+60 because the CSS structure and supplies were not yet in place in the AOR.⁹⁸ The impact is further exacerbated when support requirements and number of locations to be supported are incongruent with the number of deployed CSS forces. In Somalia for example, U.S. military and coalition forces were scattered over considerable distances throughout the country.⁹⁹ As a result, CSS forces frequently traveled great distances to provide support for a number classes of supply. Although decentralized support operations were established at various locations to mitigate delays and maximize existing capability, this procedure posed even greater strain on combat service support forces because they had to divide already limited assets.¹⁰⁰

The Army may also be tasked to provide logistics support to allied forces and civilians. Joint Publication 4.0 states that “although the sustainment of its forces is each nation’s own responsibility, varying degrees of mutual logistic support among nations can be expected.”¹⁰¹ Further, the “geographic combatant commander is responsible for provision of supplies to civilians in occupied areas in accordance with current directives, obligations, and treaties the

United States recognizes.”¹⁰² Under Acquisition and Cross-Servicing Agreements (ACSA), the Department of Defense (DOD) can also provide mutual logistics support, supplies and services to foreign military forces. ACSAs “permit exchange of logistics support, supplies, and services such as food, clothing, and petroleum; transportation; medical services; base operations support; certain types of ammunition; and maintenance on a reimbursable, replacement in kind or equal value exchange basis.”¹⁰³

Although previously limited, with Department of State approval, to NATO allies, ACSA has expanded significantly since 1982. Currently, the United States has agreements with 52 countries/organizations and an additional 73 countries/organizations that are ACSA-eligible.¹⁰⁴ Realization of these agreements are commonly observed in Joint and Coalition exercises; disaster relief, and most frequently in smaller-scale contingency operations. However, ACSA support in these operations can be particularly strenuous on limited combat service support forces primarily because of the disparity between U.S. and coalition capability. For example, during UNOSOM II in Somalia, a number of contingents arrived without adequate equipment or supplies. In this case, the U.N. Commander had a twofold challenge of providing these forces with not only the equipment (often from U.S. stocks) they needed, but also the logistical support required to keep that equipment operating.¹⁰⁵ The administrative burden for tracking costs associated with these agreements is also burdensome to administrative personnel. For instance, in Somalia, of the pervasive administrative problems encountered, the most persistent was the lack of an efficient means to track funding especially the supplies and services provided to coalition partners.¹⁰⁶ Similar issues were encountered during Operation Joint Endeavor in the Balkans. In this case, nations failed to adequately resource (staffing, units or funding) the AFSOUTH Commander for Support.¹⁰⁷ The Allied Force After Action Report also highlighted comparable concerns, specifically that the inability of allies to provide sufficient air mobility assets slowed deployment of Kosovo Force ground forces beyond those already in theater.¹⁰⁸

These examples underscore several key factors that will ultimately have an impact on the future of Army logistics structure. First, the Army’s capability and capacity to furnish unique or niche support capabilities exceeds that of any other military service or nation.¹⁰⁹ Second, many of the poorer countries participate in peace operations specifically because the U.N. pays a portion of their military budgets and therefore have little incentive to modernize or increase defense spending.¹¹⁰ Third, admission of former Soviet-block nations into NATO, which based upon lack of military modernization, questions their ability to meet the intent of security contribution specified in Article 10 of the NATO Charter. The last factor is the stagnation or in

some instances, decline of NATO Europe's defense expenditures (Table 4). In light of these factors and the portent of an uncertain future strategic environment, we must not continue to assume that our allies will have the capacity to support, especially in the quantity or quality our Army needs to accomplish its Title X responsibilities.

Defense Expenditure Comparison
Members of the Atlantic Treaty Association

	<i>% of GDP 2000</i>	<i>% of GDP 2001</i>
Belgium	1.4	1.3
Canada	1.2	1.1
Czech Republic	2.3	2.2
Denmark	1.5	1.5
France	2.6	2.6
Germany	1.5	1.5
Greece	4.9	4.8
Hungary	1.7	1.8
Iceland	na	na
Italy	2.1	2.0
Luxembourg	0.7	0.8
Netherlands	1.6	1.7
Norway	1.8	1.8
Poland	2.0	2.0
Portugal	2.1	2.0
Spain	1.2	1.2
Turkey	5.0	5.0
United Kingdom	2.5	2.5
United States	3.1	3.2
TOTAL	2.2	2.2

TABLE 4 – DEFENSE EXPENDITURE COMPARISON

IMPLICATIONS FOR THE OBJECTIVE FORCE LOGISTICS FORCE STRUCTURE

There is little debate regarding the successes of the United States-led victory during Operation Enduring Freedom in Afghanistan. Indeed, the campaign was relatively quick with few losses and the preponderance of U.S. strategic objectives were accomplished. Also, there were no simultaneous attacks in the same or other theaters and post 9/11 threats to the U.S. homeland did not significantly challenge Army capability. Despite the successes, what implications for the future should be concluded from this limited campaign? Do the results reinforce the goals of Army Transformation, specifically the logistics goals, or do they suggest development of a new paradigm? The preponderance of data indicates that neither of these is correct. Certainly, the campaign presented many unique vulnerabilities and limitations in terms

of the environment and nature of the foe. Commensurately, coalition forces employed a radically different rubric, albeit within the framework of traditional joint warfare precepts, to prosecute the campaign. However as with other wars, it brought continuity as well as change. Recognizing the continuity is crucial for understanding the campaign outcome and for analyzing its implications.¹¹¹ Within this context, the differences were less prominent than the continuities.¹¹² Further, when compared to continuities documented from the Army's experiences in contingencies of the last decade, the Afghanistan campaign offers meaningful insight for the future.

It is not to imply that advances in technology, tactics, techniques and training were unimportant or that they are unimportant for the future.¹¹³ Rather, that our Army must acknowledge historical continuity and the attendant requirement to balance technology with force structure consistent with grand strategy. This balanced force must be sufficiently capable to successfully meet a future of increased potential for frequent, simultaneous or near-simultaneous operations, conducted within multiple, asymmetric theaters of operation, to include operations within our own national boundaries. Additionally, U.S. forces, traditionally logistics forces, need the capacity to meet pre and post conflict requirements to achieve overall success of both the National Security and Military Strategy objectives. If not, suggests Dr. Milan Vego, Professor of Operations at the U.S. Naval War College, "...the United States might find itself outthought and outfought by a relatively weaker but more agile opponent who pays attention not only to tactics, but also to operational art and strategy and therefore better matches ends, means, and ways to achieve victory."¹¹⁴ This precept was not only evident in the Afghanistan campaign in which much of the real fighting was against an adversary who had already begun to adopt the customary countermeasures, but also resonated in the strategy of Slobodan Milosevic during the Kosovo campaign.¹¹⁵

As a whole, this analysis suggests that the latter of the Transformation logistics goals, reduction of the logistics footprint, may place mission accomplishment and Transformation Objective Forces at risk. Operation Enduring Freedom demonstrated more than anything that like the wars of yesterday, the wars of tomorrow will continue to require skilled, motivated forces on the ground with extraordinary capacity and sustaining power.¹¹⁶ Technological advancement makes our Army more capable, but without a commensurately balanced logistics structure, neither will triumph – this is the overarching premise that the Objective Force logistics structure construct must meet.

Currently at stake is a 50 percent reduction of the Army's logistics structure that technology-centric enthusiasts believe will save some 35,000 spaces.¹¹⁷ However, as Martin Van Creveld in his book, "Technology and War," asserts:

"Another aspect of warfare that technology has not changed nor will change nor can change is its functions. It is possible to argue about the exact nature of those functions; one pundit will distinguish between striking, protecting and moving, whereas another will extend the list to include fixing or holding the enemy, intelligence gathering, communicating, supplying, and so on. Whatever the list we care to select, the critical point is that they are rooted in the very nature of war and thus immune to technology and the kind of change which it effects. Supplying (consisting, say, of gathering, registering, storing, transporting, and distributing) and communicating; gathering intelligence and securing against surprise attack; fixing the enemy, maneuvering, protecting and striking; each and every one of these were just as vital to a neolithic horde as they are to a modern army."¹¹⁸

Stated another way, "too much emphasis on technology is unsound because the human element of warfare is being dismissed as irrelevant to our modern age."¹¹⁹ Again, Van Creveld sums up this dimension perhaps best:

"When the chips are down, there is no "rational" calculation in the world capable of causing the individual to lay down his life. On both the individual and collective levels, war is therefore primarily an affair of the heart. It is dominated by such irrational factors as resolution and courage, honor and duty and loyalty and sacrifice of self. When everything is said and done, none of these have anything to do with technology, whether primitive or sophisticated. So it was at a time when war was limited to face to face clashes between hide-clad, club-armed cavemen, 50,000 years ago; so it will be when laser-firing flying saucers permit it to be fought over interplanetary distances 100, or 500, or 1,000 years hence."¹²⁰

The Army must continue with Transformation, but it must do so by viciously guarding against the vision becoming a momentum-driven procurement strategy at the cost of a balanced force. We must also accept the costs of resourcing a force designed to be effective, not just inexpensive, against the kinds of enemies it is increasingly likely to face.¹²¹

RECOMMENDATIONS FOR DEVELOPMENT OF THE OBJECTIVE FORCE LOGISTICS FORCE STRUCTURE

In light of the above, reduction of the logistics footprint has significant implications for the Objective Force, logistics force structure. To mitigate these risks and vulnerabilities, changes must be made to the in the following key areas:

ACTIVE COMPONENT/RESERVE COMPONENT MIX

- Shift low operational tempo units from the active to the reserve component.
- Migrate low density/high demand units from the reserve to the active component.
- Increase the quantity and variety of combat service support units in the active components consistent with historical precedence and National Security Strategy.

CREATE MODULAR, MULTI-ROLE COMBAT SERVICE SUPPORT BATTALIONS

- Add and source high-demand roles predicated on recurring logistics shortfalls.
- Modularize to include quartermaster, transportation and ordnance capabilities.
- Incorporate organic command and control, maintenance and administrative capability within each module.

CIVILIAN CONTRACTOR SUPPORT

- Petition Congress to eliminate requirement for contractor support for four years for new weapon systems and for the lifetime of non-critical systems.¹²²
- Prepare doctrine establishing specific roles and locations for civilian contractors.

MOBILIZATION

- Seek expansion of call-up authority for key logistics and deployment enablers.
- Reduce the mobilization timeline.

ARMY WARTIME EXECUTIVE AGENCY REQUIREMENTS (WEAR)

- Embed Army WEAR requirements within Army Requirements during the Total Army Analysis process.¹²³

- Minimize Army supply support layering of (WEAR) logistics flow and maximize throughput of supplies and materiel consistent with emerging distribution-based logistics doctrine. ¹²⁴
- Establish metric for Combatant Commanders to measure WEAR requirements.

EQUIPMENT MODERNIZATION

- Fund and modernize reserve component logistics forces at same pace as active component units.
- Seek improvement to the Joint Requirements Board and Joint Requirements Oversight Council to ensure interoperability while minimizing interdependence.

MODELING

- Update and expand computer modeling capability to reflect doctrinal changes.

CONCLUSION

The observations discussed from Operation Enduring Freedom provide only a portion of the many interrelated factors that must be analyzed to reach any conclusive recommendations for the future. However, when compared to continuities documented from the Army's experiences in contingencies of the last decade, the Afghanistan campaign offers meaningful insights for construct of logistics force structure for the Transformation Objective Force. Key among them is a balanced logistics force with requisite training and capacity, both vertical and horizontal, to meet the demands of a full-spectrum force. Investment in the areas suggested here should provide that balance and capacity when coupled with the significant advances in equipment and technology currently under study or underway. However, much work remains to be done if we are to truly realize the goals of Transformation.

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